Town of Camp Verde Water Reclamation Facility
Aquifer Protection Permit No. P-101360
PLACE ID 1403, LTF 64909
Significant Amendment

I. Introduction:

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an Aquifer Protection Permit (APP) for the subject facility that covers the life of the facility, including operational, closure, and post-closure periods unless suspended or revoked pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. The requirements contained in this permit will allow the permittee to comply with the two key requirements of the Aquifer Protection Program: 1) meet Aquifer Water Quality Standards (AWQS) at the Point of Compliance (POC); and 2) demonstrate Best Available Demonstrated Control Technology (BADCT). BADCT's purpose is to employ engineering controls, processes, operating methods or other alternatives, including site-specific characteristics (i.e., the local subsurface geology), to reduce discharge of pollutants to the greatest degree achievable before they reach the aquifer or to prevent pollutants from reaching the aquifer.

II. Facility Location:

1300 Payson Highway
Yavapai, Arizona

III. Facility Description:

The Town of Camp Verde is authorized to operate the Camp Verde Water Reclamation Facility, with a design capacity of 1.3 million gallons per day (mgd) at full build-out; however, permitted flow shall be limited to 0.52 mgd until adequate disposal capacity is demonstrated under an APP amendment, as per Section 3.0, Compliance Schedule, Items No. 5 and 7.

Interim WRF:
The WRF is currently in operation with a permitted flow limit of 0.52 mgd. The treatment process consists of the headworks with bar screens, an extended aeration treatment train with nitrification and denitrification, clarifiers, ultraviolet (UV) disinfection, a backup chlorination system, a septage receiving station, and an effluent pump station. Filtration shall be provided as necessary to meet the discharge standards. Effluent may be disposed by infiltration and evaporation in the Duck Ponds, or delivered for beneficial reuse under a valid Recycled Water Permit. Once the facility can demonstrate adequate disposal capacity of 0.65 mgd, an APP amendment shall be submitted to the Groundwater Protection Value Stream as per Section 3.0, Compliance Schedule, Item No. 5.

Phase I WRF: The design capacity of the Phase I WRF is 0.65 mgd. The treatment process for the Phase I WRF consists of the headworks with bar screens, an extended aeration treatment train with nitrification and denitrification, clarifiers, ultraviolet (UV) disinfection, a backup chlorination system, a septage receiving station, and an effluent pump station. Filtration shall be provided as necessary to meet the discharge standards. Effluent may be disposed by infiltration and evaporation in the Duck Ponds, or delivered for beneficial reuse under a valid Recycled Water Permit.

The facility consists of two (2) aerobic sludge digesters and a belt press for sludge dewatering. The sludge is treated through the south aerobic digester and dewatered through a belt press. The existing lagoons will be repurposed as sludge dewatering lagoons to store and dewater the waste activated sludge from the aerobic digester. The septage will be digested in the north aerobic digester and then dried through the eight (8) new sludge drying beds. The facility will be adding two (2) new concrete-paved drying area (solids drying areas) for composting and miscellaneous solid handling activities. Solids from the screenings, grit and scum, shall be haul off-site for management and disposal. Once the facility can demonstrate adequate disposal capacity of 1.3 mgd, an APP amendment shall be submitted to the Groundwater Protection Value Stream as per Section 3.0, Compliance Schedule, Item No. 7.

Phase II WRF: The design capacity of the Phase II WRF is 1.30 mgd. The treatment process shall consist of the headworks with bar screens, two (2) 0.65 mgd extended aeration treatment trains with nitrification and denitrification, clarifiers, ultraviolet (UV) disinfection, a backup chlorination system, a septage receiving station, an effluent pump station, two (2) aerobic digesters, a belt press for sludge dewatering, two (2) sludge drying lagoons, eight (8) sludge drying beds and two (2) solids handling areas. Filtration shall be provided as necessary to meet the discharge standards. Effluent shall be disposed by infiltration and evaporation in the Duck Ponds, or delivered for beneficial reuse under a valid reclaimed water permit.

IV. Amendment Description:

The purpose of this amendment is to repurpose the existing treatment lagoons to store and dewater the waste activated sludge from the aerobic digester, to add eight (8) new drying beds for drying digested septage, to construct a two (2) new concrete-paved drying areas for composting and miscellaneous solids handling activities and to set ALs and AQLs for arsenic.

V. Regulatory Status:

An application for this Signicant Permit Amendment was received on September 3, 2019. The permittee is authorized to operate the WRF with a maximum average annual flow of 0.52 mgd for the Interim WRF, 0.65 mgd for the Phase I WRF and 1.3 mgd for the Phase II WRF.

Last inspection dated April 11, 2019 indicated that the facility was found to be in compliance with the APP and Arizona rules and statutes.

The permit category for this amendment was determined to be an “Significant Amendment” in accordance with A.A.C. R18-9-A211(B)(2) (e)(6), change in construction requirements.

VI. Best Available Demonstrated Control Technology (BADCT):

The treatment train, sludge drying beds and solids handling area at WRF is designed to meet the treatment performance criteria for new facilities as specified in Arizona Administrative Code R18-9-B204. The sludge drying lagoons meets the performance criteria for existing facilities as specified in Arizona Administrative Code R18-9-B205.

VII. Compliance with Aquifer Water Quality Standards (AWQS):

To ensure that site operations do not result in violation of Aquifer Water Quality Standards at the point of compliance, representative samples of the effluent shall be collected at the point of discharge from the disinfection system (see Section 4.2, Tables IA, IA-1 or IA-2, in the permit).

Groundwater monitoring is required under this permit per Section 4.2, Tables IIA and IIB for Fecal Coliform, nitrogen species, metals and organic compounds.

Facility inspection and operational monitoring will be performed on a routine basis (see Section 4.2, Table III, in the permit).